

TETRA OPTICAL MASTER REPEATER

- STAR or DAISY CHAIN CONFIGURATION
- UP TO 32 SLAVES SUPPORT WITH EXTERNAL OPTICAL SPLITTERS
- REMOTE SUPERVISION OF ALL SLAVE UNITS
- WDM TECHNOLOGY (Optical Wavelength Division Multiplexer)
- AUTOMATIC OPTICAL POWER CONTROL
- SUPPORTS BOTH MEDIUM & MACRO SLAVES
- SNMP SUPPORT

This TETRA master repeater is intended for use to convert signals from RF to optical and supply the remote optical slave repeaters. Typical applications are: long tunnel sections, in-building systems, large area outdoor coverage and long distance feed areas where the cost of the traditional RF cable is more expensive than the economical optical fiber solutions.

Using WDM (Wavelength Division Multiplex) technology the uplink and downlink signals are going on he same optical cable. The same optical cable is used for the remote supervision and alarm handling functions, which results a reliable control of communication link. All the slaves (including theirs optional external alarms) and the master unit can controlled through the master unit with a direct connection or by the help of one GSM modem.

For typical arrangement please, see drawings on page 2.

Electrical characteristics:

Frequency Dand Unlink	290 295 MH-*					
Frequency Band Uplink	380 – 385 MHz *					
Frequency Band Downlink	390 – 395 MHz *					
Nominal Gain	-20 dB					
Gain Setting	-50 to -20 dB adjustable in 1 dB step					
Pass Band Ripple	$<\pm1,5$ dB max.					
Gain Stability	$< \pm 1$ dB (within operating temp. range)					
Optical Module Maximum RF Input Power	+5 dBm					
Optical loss between master and slave	15 dBo, (including jumpers, splitters etc. along the optical connection)					
Optical Connectors	FC/APC					
RF Connectors	N-female					
Power Supply	100-240 VAC / 50-60 Hz, (optional DC 48 V)					
Power Consumption	10 W + 8 W/Channel					
Weight	15 kg with 8 optical channels					
Size	standard 19", 4U, 400mm					
Operating Temperature Range	0° C to $+45^{\circ}$ C					
Storage Temperature Range	-30°C to +70°C					
	-TCP/IP via SNMP protocol					
Control Options	-RS232**					
-	-2G/3G modem with SMS function**					
	-TCP/IP via SNMP protocol					
Alarm out	-SMS**					
	-Dry relay contact**					
Degree of Protection	Indoor					

(*) Other TETRA bands are also possible.

(**)Optional function only upon Customer's request.

Specifications are subject to change without notice.

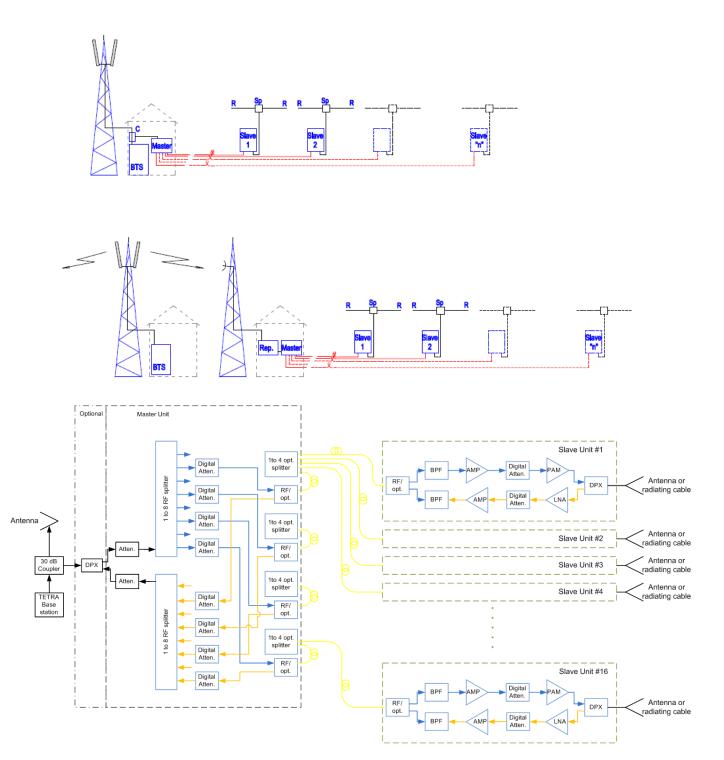


BRMF55



TETRA OPTICAL MASTER REPEATER

Block diagram of BHE optical systems:





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BRMF Controller v1.00				
Settings Password SMS				
Detected Devices				
RMF55 (00001) RF Module_1 RF Module_1 BTF23 (00008)	Device ID : RMF26	UPLINK	DOWNLINK	MASTER CENTER
RF Module_3 RF Module_5 RF Module_7	Gain:	Now Ini -20 -20 dB	Now Ini -20 C -20 dB	Device ID. : RMF Device Sn. : 00001 Device Md. : 2013.11.27
	AGC:		Disable	Device VER. : 34 Remark : Cell ID. : n.a.
	AGC Level:		-22,00 -40,00 dBm	Rx Level. : n.a. Timing Adv. : n.a.
	Forward Power		-22,00 dBm	
Device Info Device Info Identifier : RMF26 Serial number : 00001 Marufact: Date : 2013.11.27	Temp:			Supply: 11,96 V Current: 1,50 A Config.: OK
Version : 10 Function : RF Module_1	PD Monitor:	0,72 V	Alarm List	Alarm List
BHE	Optical Modem:	Now Ini		
2				✓ Update Configuration
Connected				

Master unit control window

Optical Repeater V_1.68								
ettings Password SMS								
Detected Devices								
→ RTF2T(WWT)	Device ID. : RTF21	UP	LINK	DOW	NLINK	SLAVE CENTER		
	Gain:	Now 70 * *	Ini 70 dB	Now 70	lni 70 dB		12,25 V	
	ALC Level	0 **	0 dBm	36	36 dBm	Tamper :	Closed	
Device Info iemark : evice ID, : RTF21	Mute Enable: Overdrive Protect		Disabled	OFF By HW	Disabled Disabled			
eial number : 00001 lanufact. Date : 2017.08.10 ersion : 23 unction : Slave_0	PAM PAM ON/OFF RF Module State	011		ON ON	On			
ink Address : 01 perating UL. : 380,0-385,0 MHz	PIN Level			3,04 V		Ala	arm List	
requency DL. : 390,0-395,0 MHz	Overdrive	No Overdrive		No Overdrive		1		
	Forward Power	-41,50 dBm		36,50 dBm				
	PAM State			ок				
BHE	Current	0.27.4	_	1.33 A				
	Mute State			Inactive				

Slave unit control window

Alarm Se	ttings					Alarn	n Sett	inas		Davi	ice ID:RTF		
Check:	All Tra	as All	Dry Cor	tacts		arms	Clear		Fraps	All Dry Co		ZI SI	1:00001
Slave A													
Alarm N		rungo	Mom	Trap		Dry Con	tact						
Uplink 01	erdrive > 3	30 min		V Ena	able	🗸 Enabl	e						
Uplink M	dule Curre	ent		V Ena	able	V Enabl	e						
Downlink	Overdrive	> 30 min		V Ena	able	🔽 Enabl	e						
Downlink	Overpowe	rf -	1 1	📝 Ena	able	🔽 Enabl	e						
VSWR				📝 Ena	able	🗸 Enabl	e						
PAM Ove	rTemperat	ure		📝 En	able	🔽 Enabl	e						
PAM Cur	ent			🔽 Ena	able	🗸 Enabl	е						
Module T	emperatur	9		🔽 Ena	able	🔽 Enabl	e						
+12V				🔽 Ena	able	🔽 Enabl	е						
LD Alarm				🔽 Ena	able	🔽 Enabl	е						
PD Alarm				🔽 Ena	able	🔽 Enabl	e						
Tamper				📝 Ena	able	🔽 Enabl	e	Devic	ce Set	tings			
Fan Error				📝 Ena	able	🔽 Enabl	e	FAN I	nstalled		Installed	🔽 Not	nstalled
Extern	al Alarr	ns											
Name	Mom	Trap	Dry (Contact	Acti	ve Polai	ity	Name	Mom	Trap	Dry Conta	ct Activ	e Polarity
Ext0		🔽 Enable	🔽 Er	hable	📄 Oper	n 🔽 Ck	osed	Ext2		📝 Enable	🔽 Enable	📄 Open	Closed
Ext1		🔽 Enable	🔽 Er	nable	📄 Oper	n 🔽 Ck	osed	Ext3		📝 Enable	📝 Enable	📄 Open	🔽 Closed
Dry Co	ntact												
Alarm A	ctive Polar	itu 📝	Dpen	Close	d				Befr	resh		Apply Se	ttings

Alarm (SMS) control window

BHE BONN HUNGARY ELECTRONICS Ltd. Microwave & RF Development and ManufacturingIpari Park Str. 10. Budapest, H-1044⊠ P.O.Box 164. Budapest, H-1325Home page: www.bhe-mw.euPhone: +36 1 233 2138Fax.: +36 1 233 2506E-mail: info@bhe-mw.eu



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BRMF55 Optical Master Unit

